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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,828	01/23/2002	Philipp Jung	02894-532001	7798

7590 07/17/2002  
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EXAMINER

DUDA, RINA I

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 07/17/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/054,828

Applicant(s)

JUNG ET AL.

Examiner

Rina I Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### Arrangement of the Specification

**As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:**

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

1. The abstract of the disclosure is objected to because line seven is unclear; the examiner believes it should read – emits at least part of that energy in the form of audible signals. Furthermore, applicant is reminded that the language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," "The invention describes", etc. Additionally, the phrase "fig. 1" must be deleted. Correction is required. See MPEP § 608.01 (b).

### ***Drawings***

2. Figure 1 is objected to because the boxes in the figure do not have labels describing the functions of the boxes. Correction is required. See 37 CFR 1.83(a).

A proposed drawing correction or corrected drawings are required in reply to the office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the phrase "in particular" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase

are part of the claimed invention. See MPEP § 2173.05(d). Furthermore, the term "adapted" does not describe a positive limitation (claims 1 and 18), it only describes the ability to perform something.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 7-11, 16, and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruner et al (US Patent 5065341) and Buckley (US Patent 4739346).

Gruner et al teach a printer for a personal computer comprising a driving mechanism including an electric motor 1 and a control stage containing regulator 4 and amplifier 8 for controlling the supply of power to the motor (as described in column 13 lines 8-14), said control stage supplies the motor (during off periods) with an energy signal that causes the motor to act as an electroacoustic transducer emitting audible signals, as described in column 4 lines 48-53 and column 8 lines 17-22.

Although, one person of ordinary skill would know that an electric motor needs power from an energy source in order to operate, Gruner et al fail to specifically describe an energy source connected to the control stage for supplying power to the system. However, Buckley discloses a drive system for a printer including energy source 24 connected to a control stage, which includes microprocessor 18 and ramp generators 26, 26a, 26b, and 26c. Therefore, it would have been obvious to one of

ordinary skill in the art to use an energy source to provide electric power to the control stage in Gr<sup>u</sup>ner et al, since electric systems require some type of energy ("AC" or "DC") in order to operate.

In reference to claim 2, Both Gruner et al and Buckley describe low-duty motors; these motors are considered to be low-duty because they are used intermittently and not continuously. Furthermore, Buckley describes a motor with rotor 6 and a stator including windings 4a, 4a', 4b, and 4b'.

In reference to claim 3, Buckley discloses a stepping motor for driving a printer, as described in the abstract.

In reference to claim 4, Buckley teaches a control stage feeding an analog signal to the motor, as shown in figure 6.

In reference to claim 5, The difference between the subject matter of claim 5 and the teachings of Gr<sup>u</sup>ner et al is, claim 5 recites an analog signal having a frequency that would allow the motor to emit audible signals and Gr<sup>u</sup>ner et al recites a digital signal having said characteristics. However, Buckley discloses a digital-to-analog converter connected to a digital output in order to convert said digital data into an analog signal with the characteristics of the input signal (such as the frequency), as shown in figure 6. Therefore, it would have been obvious to use a digital-to-analog converter to convert the output of the control stage of Gr<sup>u</sup>ner et al into an analog output signal, since some electric motors operate with voltages that vary continuously instead of voltage pulses.

In reference to claim 7, Buckley describes a unipolar signal through the motor, as described in figure 4.

In reference to claim 8, Buckley describes a bipolar signal through the motor, as described in figure 2.

In reference to claim 9, Grüner et al describe a control stage supplying digital signals to the motor as shown in figures 1-3.

In reference to claim 10, Grüner et al describe that the control stage produces pulse width modulated signal with a maximum amplitude of  $U_{max}$ , as described in column 4 lines 54-65.

In reference to claim 11, Grüner et al describe in column 4 lines 48-53 a frequency lying in the audible range that allows the motor to act as an acoustical device.

In reference to claim 16, Grüner et al describe in column 7 lines 54-60 that the motor has a braking action.

In reference to claim 20, Buckley teaches a control stage including signal generators 26-26c and a driving stage connected 18 connected to the power supply 24 and the signal generators, as shown in figure 5.

In reference to claim 21, Grüner et al describe a printer for a personal computer, said personal computer could be used at home.

In reference to claim 22, Grüner et al teach a direct current motor 1 for driving the printer, as described in column 8 line 19.

In reference to claim 23, Buckley describes a voltage signal operating the motor as shown in figure 6.

7. Claim 17 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grüner et al (US Patent 5065341) and Buckley (US Patent 4739346) as applied to

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claims 1-5, 7-11, 16, and 20-23 above, and further in view of McCarthy (US Patent 4042077)

In reference to claim 17, although the combined references above disclose a motor with a rotor having a braking reaction, they fail to teach a specific device capable of maintaining the motor in the rest position. However, McCarthy discloses a braking device 20 connected to the motor 24 for maintaining the motor in the rest position. Therefore, it would have been an obvious design choice to use the braking device of McCarthy in the system described by Gr<sup>u</sup>ner et al and Buckley, since the braking device can be adjusted to maintain a desired braking force.

With respect to claim 25, McCarthy describes that his braking device is a mechanical device with a constant braking torque, as described in figure 1 and column 6 lines 32-38.

### ***Claim Objections***

8. Claim 3 is objected to because the alternative expression is missing from the claim, the examiner believes that applicant intended to recite that the motor is an asynchronous, synchronous, stepping, or reluctance motor. Appropriate correction is required.

### ***Allowable Subject Matter***

9. Claims 6, 12-15, 18-19, and 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.



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10. The following is a statement of reasons for the indication of allowable subject matter: The prior art made of record does not teach an appliance for personal use including a control stage for feeding an electric motor with an analog signal containing frequency mixes for generating at least one of audible speech and music signals; or a control stage for supplying the electric motor with an energy signal having a time average lying below a signal threshold value that causes the electric motor to start-up and no frequencies below a frequency threshold value that causes the motor to start up, wherein the threshold signal varies in response to the signal frequency. Furthermore, the prior art does not describe a control stage that would generate a time delay between the instant the motor is shut off and the instant the motor is operated as an electroacoustic transducer. Finally, the prior art made of record does not disclose an appliance including a motor having a housing or housing material capable of providing a more efficient acoustic power output and elements between the motor and the housing for optimizing the acoustic emission of the appliance.

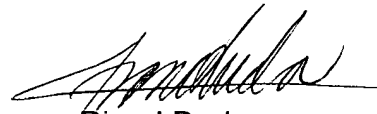
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The documents cited teach different systems for operating electric motors (US Patents 4422040 and 4965504), other braking devices used to provide electric motors with a braking force (US Patents 4096417 and 4059779), and an appliance for personal use (toothbrush) having a low duty direct current (US Patent 5974615, which is the US version of EP0850027 described in the specification).

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rina Duda whose telephone number is (703) 305-0722.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached at (703) 308-3370. The fax number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Rina I Duda  
Examiner  
Art Unit 2837

RD  
July 12, 2002